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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/193,058	11/16/1998	ALBERT S. FENG	22010-127	1589

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L SCOTT PAYNTER, IV
WOODARD EMHARDT NAUGHTON
MORIARTY & MCNETT
111 MONUMENT CIRCLE, SUITE 3700
INDIANAPOLIS, IN 462045137

EXAMINER

HARVEY, MINSUN OH

ART UNIT

PAPER NUMBER

2644

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/193,058

Applicant(s)
FENG et al

Examiner
MINSUN HARVEY

Art Unit
2644



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 19, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-56 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34, 35, 38, 43-47, 50, 55, and 56 is/are rejected.
- 7) ☒ Claim(s) 36, 37, 39-42, 48, 49, and 51-54 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 1 and 11 6) ☐ Other:

Art Unit: 2644

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 34, 35, 43, 45, 46, 47 and 55 are rejected under 35 U.S.C. 102(e) as being anticipated by Chu.

Chu discloses a method of signal processing, comprising: detecting an acoustic excitation at both a first location to provide a corresponding first signal (422L of fig. 6) and at a second location to provide a corresponding second signal (422H), the excitation being a composite of desired acoustic signal from a first source and an interfering acoustic signal from a second source spaced apart from the first source (output of 427); determining location of the second source relative to the first source as a function of the first and second signals; generating a characteristic signal representative of the desired acoustic signal during performance of the determining (col. 8,

Art Unit: 2644

line 58 to col. 9, line 20); and providing an output signal representative of the desired acoustic signal as a function of the characteristic signal (output of processor 500).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 44 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu.

Chu does not disclose separation of the second source is within five degrees of the first source. However, even though Chu does not explicitly disclose that the second source is within five degrees of the first source, since Chu has disclosed separating locations of a plurality sources (411L, 411H, 422L, 422H, 421L, 421H, 412L and 412H), it would have been obvious to have the second source within five degrees of the first source as claimed because it would merely depend upon a design choice.

5. Claims 38 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu in view of Lehr.

Chu does not disclose that the output signal is provided by a hearing device.

Lehr discloses a method of signal processing and which is comprised of generating a desired acoustic signal which includes speech (output of 19) and the output signal is provided by

Art Unit: 2644

a hearing aid device (12). Since Lehr has disclosed using a hearing aid device to provide a desired acoustic signal, it would have been obvious to combine Lehr's teaching with Chu because Chu's microphone system could be used within hearing aid device of Lehr for reproducing speech with less noise.

6. Claims 36, 37, 39-42, 48, 49, and 51-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. On page 1, lines 1 to 14, the applicant has stated that claim 55 was rejected under Chu reference, however that claim 55 was being objected in the office action summary. The examiner has made a typo error and as applicant has treated, claim 55 is rejected under Chu reference. Examiner apologizes for confusion.

On page 1, line 15 to page 2, line 23, the applicant has argued that Chu reference does not disclose "determining location of the second source (of an interfering acoustic signal) relative to the first source (of a desired acoustic signal) as a function of the first and second signals". The applicant's argument is not persuasive because it is inherent when a system contains a plurality of microphones, one microphone receives mainly a signal plus noise and other microphone receives mainly a noise plus a signal. Also, as shown in fig. 5, location of each signals are summed of all the signals from all the microphones (see col. 8, lines 48 to 56).

On page 3, line 1 to page 4, line 1, the applicant has argued that "the present application provide nonlimiting examples of this approach in which 'sensors 22 and 24 are fixed relative to

Art Unit: 2644

each other and configured to move in tandem to selectively position reference axis R1 relative to a desired acoustic signal source”. The applicant’s argument is not persuasive because no such limitations can be found in claim 34.

On page 4, lines 2 to page 5, line 7, the applicant has argued that Chu reference does not disclose “localizing the second source (of an interfering acoustic signal) relative to the first source (of a desired acoustic signal) as a function of the first and second signal, said localizing including establishing a number of location signal each corresponding to a difference location relative to the first source”. As described above, the applicant’s argument is not persuasive.

On page 6, lines 2 to 11, the applicant has argued that “the separation of the second source is within five degrees of the first source relative to a zero degree azimuthal reference axis intersecting the first source at a midpoint situated between the first and second locations” is not obvious as the examiner has stated. The examiner disagrees with the applicant because as described above separating two sound sources within certain degrees would depend upon where you want the two microphones to be. User would not want the microphones to be right next to each other because it would cause interference and too far away from each other because both microphones would pick up totally different signals.

On page 6, line 12 to page 7, line 2, the applicant has argued that one skilled in the art would not be motivated to combine Chu and Lehr references. The applicant’s argument is not persuasive because as described above, it would have been obvious to combine Lehr’s teaching

Art Unit: 2644

with Chu because Chu's microphone could be used within hearing aid device for reproducing speech with less noise.

The examiner maintains the rejection as set forth above.

8. DE 19541648, DE 2823798, and DE 3322108 which were cited on IDS (Paper # 10) have not been considered by the examiner since no English translations were provided.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CAR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CAR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Minsun Oh Harvey** whose telephone number is (703) 308-6741.

Art Unit: 2644

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Bill Isen**, can be reached at **(703) 305-4386**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

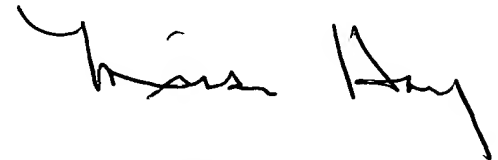
Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist)

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



**MINSUN OH HARVEY
PRIMARY EXAMINER**